

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1, 2, and 6-12 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The original disclosure does not teach or clearly convey to one of ordinary skill in the art how Emax is measured. Applicant's specification indicates that a nondevelopable surface cannot be developed on a plane without tearing, indicating that a developable surface is developed on a plane without tearing, i.e. can be flattened out. Since the developable surface of claim 1 can be flattened out, the flat pieces of septum should be able to contact the developable surface everywhere, resulting in an error of zero. However, the claim now requires the error to be between 2 and 2.5 mm, while the fact that the final shape of the septum is developable means that the error is zero, and these contradict each other.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1, 2, and 6-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, it is unclear where Emax is measured from and to, i.e. what are the starting and ending points of the error. It is unclear if the total error can only be between 2 and 2.5 mm, or if the maximum amount of error is intended to be at most 2 to 2.5 mm. For the purposes of examination, this is assumed to mean that the maximum error is 2 or 2.5 mm depending on the precise article.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 2, and 7-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Syed (U.S. Patent 6,203,656) in view of Williamson et al. (U.S. Patent 4,534,813) and Blackwell (U.S. Patent 5,073,457).

Syed discloses a method for making an acoustic panel by stacking a porous acoustic skin (Col. 2, ll. 29), a primary honeycomb (16), a multi-perforated septum (Col. 2, ll. 60-62) which can be made of fiberglass impregnated with resin (Col. 3, ll. 43-45), a secondary honeycomb (18), and an impermeable skin (24) on a mold, applying transverse pressure (Col. 3, ll. 17-20), and curing them to bond them together in the

desired shape. The reference does not disclose forming the septum by applying separate parts to the honeycomb on the mold such that they abut each other so as to approximate the final shape. Williamson et al. discloses forming a complex curvature to a fabric(Col. 1, ll. 12-13) by mapping the surface and cutting several shapes which are pieced together abutting to form the final shape.(Abstract) It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the septum of Syed from multiple parts which are applied to the surface of the honeycomb so that the septum would accurately fix the complex curvature of the article,(Col. 1, ll. 12-14, 44-47) thus using a known technique to improve a similar article in the same way. While Syed does not explicitly disclose the porous acoustic skin is perforated, one in the art would appreciate that since the skin is porous, it effectively has a multitude of holes. Additionally, the reference indicates skin has a conventional configuration(Col. 2, ll. 30), and since such skins are conventionally perforated, it would be perforated. As to the error E, one in the art would appreciate that since creases would not be desirable, one in the art would appreciate that a minimum distance between the septum and honeycomb would be desired and would use the appropriate number of septum sections to insure this. As applicant's claim indicates that below E, creases and tearing do not occur, reducing the distance between the septum and the honeycomb to prevent creasing and tearing would effectively bring the maximum error below E.

As to the limitation of an adhesive being present on the septum which allows the components to be placed thereon before final bonding, Blackwell discloses an adhesive which allows placement of an article and allows it to be adjusted until one is satisfied

with The placement.(Col. 2, ll. 1-5) It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a repositionable adhesive such as that of Blackwell on the septum components since this would allow placements of the components and their adjustment until the optimal placement is determined.(Col. 2, ll. 1-5)

As to the limitation of the error being between 2 and 2.5 mm, since the final surface is made of developable shapes, one in the art would appreciate that the flat pieces of the septum would be in close contact with the developable surface and thus the error would be less than 2.5 mm. One the art would appreciate that the layers to not very elastic and would minimize the distance between the first and final locations as much as possible to prevent tearing, leading to an error of less than 2.5 mm.

Regarding claim 2, one in the art would appreciate that the least number of septum pieces would be used.

Regarding claim 7, Syed discloses the septum can be pre-perforated(Col. 2, ll. 66)

Regarding claim 9, one in the art would appreciate that the septum could be perforated before or after cutting to the desired shapes, and these are obvious alternatives in the art. Additionally, it would have been obvious to one of ordinary skill in the art at the time the invention was made to perforate after cutting since perforations would not be made in areas which would later be discarded as scrap.

Regarding claim 10, Syed discloses the septum is fiber reinforced material in a resin matrix.(Col. 3, ll. 43-44) It would have been obvious to one of ordinary skill in the

art at the time the invention was made to make the septum of glass fiber fabric impregnated with resin since this would be an easy way to include fiberglass reinforcement as is known in the art and to use epoxy since epoxy is a well-known and conventional curable resin for use in pre-pregs.

7. Claims 1, 6, 11, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art in view of Syed, Williamson et al., and Blackwell.

The admitted prior art discloses a method for making an acoustic panel by stacking a multi-perforated acoustic skin, a primary honeycomb, a multi-perforated septum made of fabric impregnated with resin, a secondary honeycomb, and an impermeable skin together (Pg. 2, ll. 35- Pg. 3, ll. 11) The reference does not disclose the exact curing process. Syed discloses layering the material up on a mold, applying transverse pressure (Col. 3, ll. 17-20), and curing them to bond them together in the desired shape. The reference does not disclose forming the septum by applying separate parts to the honeycomb on the mold such that they abut each other so as to approximate the final shape. Williamson et al. discloses forming a complex curvature to a fabric (Col. 1, ll. 12-13) by mapping the surface and cutting several shapes which are pieced together abutting to form the final shape. (Abstract) It would have been obvious to one of ordinary skill in the art at the time the invention was made to lay everything up on the mold to form the final product since Syed discloses making a similar product using a mold and to make the septum of the admitted prior art from multiple parts which

are applied to the surface of the honeycomb so that the septum would accurately fix the complex curvature of the article (Col. 1, ll. 12-14, 44-47) thus using a known technique to improve a similar article in the same way. As to the error E, one in the art would appreciate that since creases would not be desirable, one in the art would appreciate that a minimum distance between the septum and honeycomb would be desired and would use the appropriate number of septum sections to insure this. As applicant's claim indicates that below E, creases and tearing do not occur, reducing the distance between the septum and the honeycomb to prevent creasing and tearing would effectively bring the maximum error below E.

As to the limitation of an adhesive being present on the septum which allows the components to be placed thereon before final bonding, Blackwell discloses an adhesive which allows placement of an article and allows it to be adjusted until one is satisfied with the placement. (Col. 2, ll. 1-5) It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a repositionable adhesive such as that of Blackwell on the septum components since this would allow placements of the components and their adjustment until the optimal placement is determined. (Col. 2, ll. 1-5)

As to the limitation of the error being between 2 and 2.5 mm, since the final surface is made of developable shapes, one in the art would appreciate that the flat pieces of the septum would be in close contact with the developable surface and thus the error would be less than 2.5 mm. One in the art would appreciate that the layers to not

very elastic and would minimize the distance between the first and final locations as much as possible to prevent tearing, leading to an error of less than 2.5 mm.

Regarding claim 6, since the holes in the septum as intended to remain open, one in the art would appreciate that they would be checked for blockage by the adhesive prior to assembly.

Regarding claim 11, while the references do not disclose the septum is coated with adhesive, one in the art would appreciate that since multiple parts are being laid up on a surface, the parts could move relative to one another. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use an adhesive on the septum of the admitted prior art, Syed, and Williamson et al. to keep the septum parts in place relative to one another when they are placed on the honeycomb and to make the adhesive have strength the moment it contacts the honeycomb to keeps the parts from moving relative to one another.

Regarding claim 12, one in the art would appreciate that the adhesive would allow movement of the parts after placement to allow them to be shifted to best fit the honeycomb so as to cover the most surface of the honeycomb.

Response to Arguments

8. Applicant's arguments filed 4/24/09 have been fully considered but they are not persuasive.

Regarding applicant's argument that the specification cannot be considered not enabled since examiner has rejected the claims stating that one in the art would

appreciate that a minimum distance would be desired, the fact that examiner has stated that one in the art would want to minimize a parameter does not mean that applicant's specification disclosed how to determine the maximum amount of that parameter. The disclosure does not teach what E is measured between such that an error of 2 to 2.5 mm is always present.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BARBARA J. MUSSEY whose telephone number is (571)272-1222. The examiner can normally be reached on Monday-Thursday; alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571)-272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

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USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BJM

/B. J. M./

Examiner, Art Unit 1791

/Richard Crispino/

Supervisory Patent Examiner, Art Unit 1791